

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

ORDER NO. 93-119  
NPDES PERMIT NO. CA0038644

WASTE DISCHARGE REQUIREMENTS FOR:

NAPA RIVER RECLAMATION DISTRICT #2109  
EDGERLY ISLAND, NAPA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, hereinafter called the Board, finds that:

1. The Napa River Reclamation District #2109 (formerly Edgerly Island Reclamation District), hereinafter called the discharger, submitted a Report of Waste Discharge dated May 4, 1993 for reissuance of waste discharge requirements and a permit to discharge wastewater to waters of the State and the United States under the National Pollutant Discharge Elimination System (NPDES).
2. This discharge is presently governed by Waste Discharge Requirements in Order No. 88-018, adopted by the Board on February 17, 1988.
3. The discharger operates since 1985 a sewage collection and treatment system serving the Edgerly Island area, in Napa County, which had numerous problems in the past with individual on-site wastewater disposal systems. The plant provides secondary level treatment for domestic wastewater from a present population of approximately 400. The treatment plant has an average dry weather flow design of 40,000 gallons per day (gpd). A location map is included as Attachment A.
4. The U.S. Environmental Protection Agency (EPA) and the Board have classified this discharge as a minor discharge.
5. Treatment facilities consist of a 10-bed mound percolation system followed by chlorination. Treated effluent is stored and recirculated in three storage ponds covering an area of 9.5 acres. Discharge structure is installed in ponds 1 and 2 only. Pond 3 has a man-made island for enhancing wild life habitat.
6. The Treatment facility was designed to discharge, if necessary, between December 1 and April 30 of each year, about 82,000 gpd (maximum seven day average) of effluent and rainwater from the ponds. Discharge from the ponds (Latitude 38 Deg. 12 Min. 30 Sec.; Longitude 122 Deg. 18 Min. 62 Sec.) is to drainage channels that are a part of a marsh restoration project operated by the California Department of Fish and Game. This marsh drains to Mud Slough and thence to the Napa River, waters of the State and of the United States. Discharge from the ponds has not yet commenced, and is not likely to occur, due to adequate storage and evaporation capacity within the ponds.
7. The Board amended its Water Quality Control Plan (Basin Plan) for the San Francisco Bay Region on September 16, 1992, and the State Board approved it on April 27, 1993.
8. The State Water Resources Control Board (State Board) adopted the California Enclosed Bay and Estuaries Plan (EBEP) on April 11, 1991. On November 19, 1992 the State Board adopted amendments to the Plan. This plan identifies water quality objectives for all enclosed bays and estuaries, and a strategy for implementation of the objectives. This plan requires appropriate water quality objectives to be implemented in discharger's Waste Discharge Requirement permit.

9. This Order implements the plans, policies and provisions of the Board's Basin Plan, and the State Board's California Enclosed Bays and Estuaries Plan.
10. The Basin Plan contains water quality objectives and beneficial uses for the Napa River. The beneficial uses of Napa River are as follows:
  - Navigation
  - Water Contact Recreation
  - Non-contact Water Recreation
  - Wildlife Habitat
  - Preservation of Rare and Endangered Species
  - Fish Migration
  - Fish Spawning
  - Cold Water Habitat
  - Warm Water Habitat
  - Agricultural Supply
  - Municipal and Domestic Supply
11. The Basin Plan prohibits the discharge of wastewater which has characteristics of concern to beneficial uses at any point at which the wastewater does not receive a minimum initial dilution of at least 10:1, or into any non-tidal water, dead-end slough, similar confined waters, or any immediate tributaries thereof.
12. The proposed discharge will not receive a minimum initial dilution of 10:1, and will be made to the Mud Slough, a confined water body, in the tidal reach of the Napa River. The Board's Basin Plan prohibits such discharges, but provides for exceptions in cases where an inordinate burden would be placed on the discharger relative to the beneficial uses protected, and where an equivalent level of protection can be achieved by alternative means. The Board hereby finds that these criteria have been met for the proposed discharge based on the following:
  - a. The project's alleviating a severe public health problem from failed septic systems, by providing proper wastewater collection and treatment;
  - b. The exceptional cost required for constructing a pipeline transporting this small flow; and
  - c. The protection to beneficial uses afforded by:
    1. Limitation of the discharge to wet weather months when average dilution is significantly greater than 10:1, and
    2. The high degree of reliability provided by the treatment and storage system.
13. An Operations and Maintenance Manual is maintained by the discharger for purposes of providing plant and regulatory personnel with a source of information describing all equipment, recommended operation strategies, process control monitoring, and maintenance activities. In order to remain a useful and relevant document, the manual shall be kept updated to reflect significant changes in treatment facility equipment and operation practices.

14. This Order serves as an NPDES Permit, adoption of which is exempt from the provisions of Chapter 3 (commencing with Section 21000) of Division 13 of the Public Resources Code [California Environmental Quality Act (CEQA)] pursuant to Section 13389 of the California Water Code.
15. The discharger and interested agencies and persons have been notified of the Board's intent to reissue requirements for the discharge and have been provided an opportunity to submit their written views and recommendations.
16. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to the provisions of Division 7 of the California Water Code and regulations adopted thereunder, and to the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, that the Napa River Reclamation District #2109 shall comply with the following:

A. DISCHARGE PROHIBITIONS

1. Discharge of treated wastewater at a location or in a manner different from that described in the findings of this Order is prohibited.
2. The bypass or overflow of untreated or partially treated wastewater to waters of the State, either at the treatment plant or from the collection system or pump stations tributary to the treatment plant, is prohibited.
3. The average dry weather flow to the treatment plant shall not exceed 40,000 gallons per day (gpd). The average dry weather flow shall be determined over three consecutive dry weather months each year.
4. Discharges of water, materials, or wastes other than storm water, which are not otherwise authorized by this NPDES permit, to a storm drain system or waters of the State are prohibited.
5. Storm water discharges shall not cause pollution, contamination, or nuisance.
6. Discharge to the marsh restoration project area is prohibited during the period from May 1 through November 30 each year. Discharge later than May 1 or prior to November 1 may be authorized by the Executive Officer, for a specified period not to exceed one month, based on written request from the Discharger demonstrating that adequate dilution is available at the discharge point and that water quality objectives in the receiving water would be complied with.

B. SPECIFICATIONS FOR STORAGE PONDS

1. Wastewater grab samples within one foot of the surface of pond Nos. 1 and 2 shall meet the following quality limits at all times:
  - a. Dissolved oxygen 2.0 mg/l minimum
  - b. Dissolved sulfides 0.1 mg/l maximum

- c. pH 6.0 - 9.0
2. Wastewater grab samples within one foot of the surface of pond No.3 shall meet the following limits:
  - a. Dissolved Oxygen 5.0 mg/l, minimum  
(The median dissolved oxygen concentration for any three consecutive months shall not be less than 80% of the dissolved oxygen content at saturation. When natural factors cause concentrations less than that specified above, then the discharger shall not cause further reduction of the dissolved oxygen concentrations.)
  - b. Dissolved Sulfide 0.1 mg/l, maximum
  - c. pH 6.0 - 9.0  
(If natural factors cause the above limits to be exceeded, variation from natural ambient pH shall not be more than 0.5 pH units.)
  - d. Un-ionized Ammonia as N 0.025 mg/l annual median  
0.16 mg/l maximum
3. A minimum freeboard of 18 inches shall be maintained in all ponds at all times.
4. All ponds shall be protected from erosion, washout, and flooding from the maximum flood having a predicted frequency of once in 100 years.
5. The waste shall not cause degradation of any groundwater so as to impair beneficial uses.
6. The following conditions shall not exist in pond No. 3 at any place:
  - a. Floating, suspended, or deposited macroscopic particulate matter or foam;
  - b. Bottom deposits or deleterious aquatic growths;
  - c. Visible, floating, suspended, or deposited oil or other products of petroleum origin; or
  - d. Toxic or other deleterious substances to be presented in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.

### C. EFFLUENT LIMITATIONS

The term "effluent" in the following limitations means the fully treated wastewater effluent from the discharger's wastewater treatment facility, as discharged to the marsh restoration project area during the allowed discharge period.

1. The effluent discharged shall not exceed the following limits:

<u>Constituent</u>	<u>Unit</u>	<u>Monthly</u> <u>Avg.</u>	<u>Weekly</u> <u>Avg.</u>	<u>Daily</u> <u>Avg.</u>	<u>Instantaneous</u> <u>Max.</u>
a. BOD <sub>5</sub> (biochemical oxygen demand)	mg/l	30	45	60	
b. TSS (total suspended solids)	mg/l	30	45	60	
c. oil & grease	mg/l	10		20	
d. settleable matter	ml/l-hr	0.1			0.2
e. total chlorine residual <sup>(1)</sup>	mg/l				0.0

Footnote: <sup>(1)</sup> Requirement defined as below the limit of detection in standard test methods.

2. pH: The pH of the discharge shall not exceed 9.0 nor be less than 6.0
3. Total Coliform Bacteria:

The treated wastewater, at some place in the treatment process prior to discharge, shall meet the following limits of bacteriological quality:

The moving median value for the Most Probable Number (MPN) of total coliform bacteria in any five (5) consecutive samples shall not exceed 240 MPN/100 ml; and, any single sample shall not exceed 10,000 MPN/100 ml when verified by a repeat sample taken within 48 hours.

4. 85 Percent Removal, BOD and TSS:

The arithmetic mean of the biochemical oxygen demand (5-day, 20°C) and total suspended solids values, by weight, for effluent samples collected in each calendar month shall not exceed 15 percent of the arithmetic mean of the respective values, by weight, for influent samples collected at approximately the same times during the same period.

5. Acute Toxicity:

Representative samples of the effluent shall meet the following limits for acute toxicity: (Provision F.4 of this Order applies to the bioassay.)

The survival of organisms in undiluted effluent shall be a 3-sample median value of not less than 90 percent survival, and a single-sample maximum of not less than 70 percent survival.

The 3-sample median effluent limitation is defined as follows:

3-sample median: If one of the past two or fewer samples shows less than 90 percent survival, the survival of less than 90 percent on the next sample represents a violation of the effluent limitation.

D. RECEIVING WATER LIMITATIONS

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:
  - a. Floating, suspended, or deposited macroscopic particulate matter or foam;
  - b. Bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses;
  - c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;
  - d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;
  - e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on wildlife, waterfowl, or other aquatic biota, or which render any of these unfit for human consumption, either at levels created in the receiving waters or as a result of biological concentration.
2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State at any place within one foot of the water surface:
  - a. Dissolved Oxygen                      5.0 mg/l, minimum  
  
(The median dissolved oxygen concentration for any three consecutive months shall not be less than 80% of the dissolved oxygen content at saturation. When natural factors cause concentrations less than that specified above, then the discharge shall not cause further reduction in ambient dissolved oxygen concentrations.)
  - b. Dissolved Sulfide                      0.1 mg/l, maximum
  - c. pH    Variation from normal ambient pH by more than 0.5 pH units.
  - d. Un-ionized Ammonia                      0.025 mg/l as N, annual median  
   0.16 mg/l as N, maximum
  - e. Nutrients                                  Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.
3. The discharge shall not cause a violation of any particular water quality standard for receiving waters adopted by the Board or the State Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

E. SLUDGE MANAGEMENT PRACTICES

1. Sludge treatment, storage, and disposal or reuse shall not create a nuisance, such as objectionable odors or flies, or result in groundwater contamination.
2. Sludge that is disposed of in a municipal solid waste landfill must meet the requirements of 40 CFR 258. In the annual self-monitoring report, the discharger shall include the amount of sludge disposed of, and the landfill(s) to which it was sent.

F. PROVISIONS

1. Requirements prescribed by this Order supersede the requirements prescribed by Order No. 88-018. Order No. 88-018 is hereby rescinded.
2. Where concentration limitations in mg/l or µg/l are contained in this Permit, the following Mass Emission Limitations shall also apply:  
  
$$\text{Mass Emission Limit in kg/day} = (\text{Concentration Limit in mg/l}) \times (\text{Actual Flow in million gallons per day averaged over the time interval to which the limit applies}) \times 3.78 \text{ (conversion factor)}.$$
3. The discharger shall comply with all sections of this Order immediately upon adoption.
4. Compliance with Acute Toxicity Effluent Limitation:
  - a. Compliance with Effluent Limitation C.5 (Acute Toxicity) of this Order shall be evaluated by measuring survival of test fishes exposed to undiluted effluent for 96 hours in static renewal bioassay. Each fish species represents a single bioassay.
  - b. Two fish species will be tested concurrently. These shall be the most sensitive species determined from a single screening (all tests must be completed within ten days of initiating the first test) of three species: three-spine stickleback, rainbow trout and fathead minnow.
  - c. All bioassay shall be performed according to protocols approved by the U.S. EPA or State Board, or published by the American Society for Testing and Materials (ASTM) or American Public Health Association.
5. The discharger shall review, and update as necessary, its Operations and Maintenance Manual annually, or within 90 days of completion of any significant facility or process changes. The discharger shall submit to the Board, by April 15 of each year, a letter describing the results of the review process including an estimated time schedule for completion of any revisions determined necessary, and a description or copy of any completed revisions.
6. Annually, the discharger shall review and update as necessary, its Contingency Plan as required by Board Resolution 74-10. The discharge of pollutants in violation of this Order where the discharger has failed to develop and/or adequately implement a contingency

plan will be the basis for considering such discharge a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code. Plan revisions, or a letter stating that no changes are needed, shall be submitted to the Board by April 15 of each year.

7. The discharger shall implement a program to regularly review and evaluate its wastewater collection, treatment and disposal facilities in order to ensure that all facilities are adequately staffed, supervised, financed, operated, maintained, repaired, and upgraded as necessary, in order to provide adequate and reliable transport, treatment, and disposal of all wastewater from both existing and planned future wastewater sources under the discharger's service responsibilities.
8. The discharger shall comply with the Self-Monitoring Program for this order, as adopted by the Board and as may be amended by the Executive Officer.
9. The discharger shall comply with all applicable items of the attached "Standard Provisions and Reporting Requirements " dated August 1993, or any amendments thereafter.
10. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the discharger, the discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to this office.

To assume operation of this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. (Refer to Standard Provisions, referenced above). The request must contain the requesting entity's full legal name, the address and telephone number of the persons responsible for contact with the Board and a statement. The statement shall comply with the signatory paragraph described in Standard Provisions and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code.

11. The Board may modify, or revoke and reissue, this Order and Permit if present or future investigations demonstrate that the discharge(s) governed by this Order are causing or significantly contributing to adverse impacts on water quality and/or beneficial uses of the receiving waters.
12. This Order expires on February 17, 1998. The discharger must file a report of waste discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code not later than 180 days before this expiration date as application for reissuance of waste discharge requirements.
13. This Order shall serve as a National Pollutant Discharge Elimination System (NPDES) permit pursuant to Section 402 of the Clean Water Act or amendments thereto, and shall become effective 10 days after the date of its adoption provided the Regional Administrator, EPA, has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.



I, Steven R. Ritchie, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on October 20, 1993.

  
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STEVEN R. RITCHIE  
Executive Officer

Attachments:

- A. Location Map
- B. Contingency Plan - Resolution 74-10
- C. Self-Monitoring Program
- D. Standard Provisions and Reporting Requirements, August 1993

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

FINAL  
SELF-MONITORING PROGRAM  
FOR

NAPA RIVER RECLAMATION DISTRICT #2109

EDGERLY ISLAND

NAPA COUNTY

NPDES NO. CA0038644

ORDER NO. 93-119

CONSISTS OF

PART A (dated 8/93)

AND

PART B

## PART B

### NAPA RIVER RECLAMATION DISTRICT #2109

#### I. DESCRIPTION OF SAMPLING STATIONS

##### A. INFLUENT

<u>Station</u>	<u>Description</u>
A-001	At any point in the treatment facilities headwork at which all waste tributary to the system is present, preceding any phase of treatment.

##### B. EFFLUENT

<u>Station</u>	<u>Description</u>
E-001	At any point in the effluent from the treatment facilities at which all waste tributary to the effluent is present, prior to the point of discharge.

##### C. MOUND PERCOLATION SYSTEM

<u>Station</u>	<u>Description</u>
G-1 thru G-10	At the ten existing monitoring wells located within each of the ten percolation beds.
M-1	At any point in between the disinfection facilities and the holding ponds at which all waste collected from the mound percolation system is present and adequate contact time with disinfectant has been allowed.

##### D. HOLDING PONDS

<u>Station</u>	<u>Description</u>
P-1 thru P-3	Located at any point in holding pond Nos. 1, 2, and 3, respectively, within one foot of the water surface, representative of the wastewater.

##### E. RECEIVING WATERS

<u>Station</u>	<u>Description</u>
C-1	At a point within the adjoining 45 acre tidal marsh restoration project area to be operated by the California Department of Fish and Game. The location of this sampling point will be decided by

the California Department of Fish and Game after the commencement of the discharge into the marsh.

F. LAND OBSERVATIONS

<u>Station</u>	<u>Description</u>
L-1 thru L-"n"	Located along the perimeter levee of each holding pond at equidistant intervals not to exceed 100 feet. (A sketch showing the locations of these stations shall accompany each report.)
R-1 thru R-"n"	Located along the periphery of the waste treatment facilities at equidistant intervals not to exceed 500 feet. (A sketch showing the locations of these stations shall accompany each report.)

G. OVERFLOWS AND BYPASSES

<u>Station</u>	<u>Description</u>
O-1 thru O-"n"	Bypasses or overflows from manholes, pump stations, or collection system. (Note: Initial report shall include a map and descriptions of each known bypass or overflow location.)

II. SCHEDULE OF SAMPLING, ANALYSIS AND OBSERVATIONS

The schedule of sampling, analysis and observations shall be that given in Table 1.

III. MODIFICATION OF PART A (dated 8/93)

This monitoring program does not include the following sections of Part "A": C.1.a.

I, Steven R. Ritchie, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 93-119.
2. Is effective on the date shown below.
3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger, and revisions will be ordered by the Executive Officer.

  
STEVEN R. RITCHIE  
Executive Officer

Effective Date: October 20, 1993.

Attachment: Table 1

TABLE 1  
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station:	A		B <sup>(a)</sup>			G	M		P	C <sup>(d)</sup>	L	R	O
Type of Sample:	C-4	Co.	G	C-8	Co.	O	G	C-4	G	G	O	O	O
Flow Rate (mgd)		D			D								
BOD <sub>5</sub>	M			2W				M					
TSS	M			2W				M					
Oil & Grease <sup>(f)</sup>				Q				Q					
Settleable Matter (ml/l-hr)			2W				M						
Chlorine Residual			2W				M						
Total Coliform, (MPN/100 ml)							M						
Acute Fish Toxicity, % surv.				M <sup>(3)</sup>									
Chronic Toxicity, % survival													
pH, units			2W				M		M	M			
DO, mg/l & % saturation			2W				M		M	M			
Dissolved Sulfides (if DO<2)			2W				M		M	M			
Arsenic													
Cadmium													
Chromium IV													
Copper													
Cyanide													
Silver													
Lead													
Mercury													
Nickel													
Zinc													
Phenolic Compounds													
PAHs													
Un-ionized Ammonia as N <sup>(2)</sup>				M					Q <sup>(5)</sup>	M			
Applicable Std. Observations									D <sup>(6)</sup>	M	W	W	E
River Flow (mgd)										W			
Dilution Ratio (river:eff.)			W										
Well Water Level, ft.						D							

LEGEND FOR TABLE 1:

<u>Types of Samples:</u>	G	=	Grab Sample
	C-x	=	Composite sample - x hours
	Co.	=	Continuous Sampling
	O	=	Observation

<u>Types of Stations:</u>	A	=	treatment facility influent
	E	=	waste effluent
	C	=	receiving water
	R	=	treatment facilities perimeter
	L	=	pond levee
	M	=	mound system effluent
	G	=	mound system monitoring well
	P	=	holding ponds
	O	=	overflow and bypass

Frequency of Sampling:

D	=	once each day
W	=	once each week
M	=	once each month
Y	=	once each year
2W	=	every 2 weeks
Q	=	quarterly, (once in March, June, Sept. & December)
E	=	each occurrence

#### FOOTNOTES FOR TABLE 1

- (1) Each Oil and Grease sample shall consist of three grab samples taken at two-hour intervals during the sampling date, with each grab being collected in a glass container and analyzed separately. Results shall be expressed as a weighted average of the 3 values based upon the instantaneous flow rates occurring at the time of each grab sample collection.
- (2) At the effluent station (E station), un-ionized Ammonia as N shall be tested monthly during discharging periods only. At the P-3 station (pond No.3), unionized ammonium as N shall be analyzed quarterly (every three months) during non-discharging season when pond No.3 is being used to store treated wastewater. The testing at P-3 is not required if the water contained therein is strictly rainwater.
- (3) Analyses shall be performed monthly during the discharging period. In addition, a pre-discharge analysis is required before the onset of each discharging season. Discharge to the marsh restoration project area shall not be started until analysis result has shown that the effluent to be discharged is non-toxic.
- (4) Sampling of effluent (E station) and receiving water (C station) are not required during the non-discharging periods. All sampling and observations of the receiving water shall be performed during periods of high tide.
- (5) The testing is required only at P-3 station (in pond No.3).
- (6) Daily surveillance of bird activity shall be performed during the period from August 1 through November 30 of each year for preventing the spreading of avian botulism. Notifications by phone shall be made to the California Department of Fish and Game immediately after the observations of dead or diseased birds.